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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,030	11/26/2003	Kevin John Brown	2775/105	8854
2101 7590 06/10/2010 Sunstein Kann Murphy & Timbers LLP 125 SUMMER STREET BOSTON, MA 02110-1618				
EXAMINER CATTUNGA, SANJAY				
ART UNIT		PAPER NUMBER		
3768				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/723,030

Applicant(s)

BROWN, KEVIN JOHN

Examiner

SANJAY CATTUNGAL

Art Unit

3768

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/09/09.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/09/09 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 6-12, 18, and 19, are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 6,842,502 to Jaffray et al. in view of U. S. Patent No. 7,171,255 to Holupka et al. in view of U. S. Publication No. 2005/0171430 to Zhang et al.**

4. Regarding **Claim 6**, Jaffray teaches a two-dimensional imager responsive to imaging radiation and generating a two-dimensional imaging output (col. 3 lines 40-45); computing means for processing the imaging output to produce tomography data (col.

23 lines 18-21 teaches generating a 3d image from a plurality of 2d images); and a therapeutic source controllable in response to feedback from the tomography data and producing therapeutic radiation (claim 1 last element teaches that based on the imaging data the computer sends a signal to the radiation source that controls the path of the radiation source).

5. Jaffray does not expressly teach computing means for processing the imaging output to produce a plurality of intersecting sectional views, each sectional view being an image containing pixels with values derived from a plurality of voxels in the tomography dataset which are disposed transverse to the corresponding section.

6. Holupka teaches computing means for processing the imaging output to produce a plurality of intersecting sectional views, each sectional view being an image containing pixels with values derived from a plurality of voxels in the tomography dataset which are disposed transverse to the corresponding section (Fig. 5a and 5b).

7. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Jaffray with image processing means to produce a plurality of intersecting sectional views as taught by Holupka, since such a setup would result in better diagnosis, as a sectional view will provide more precise determination of the treatment site, moreover the sectional views could be defined by the user as to contain more information.

8. Jaffray and Holupka teach all of the above claimed limitations but do not expressly teach obtaining pixel values by averaging voxels.

9. Zhang teaches obtaining pixel values by averaging voxels (paragraph 0050, 0051, and 0091).
10. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Jaffray and Holupka to teach that the pixel values are obtained by averaging voxels, as taught by Zhang, since such a setup would result in better diagnosis, as the 2d image will have more data in it as it's an average of the voxel values.
11. Regarding **Claim 7**, Holupka teaches plurality of voxels are disposed orthogonal corresponding section (Fig. 5a and 5b, shows plurality of 2d images which would make a plurality of voxels, which are orthogonal to each other).
12. Regarding **Claim 8**, Holupka teaches plurality of voxels are disposed linearly (Fig. 5a and 5b, shows plurality of 2d images which would make a plurality of voxels, which are linear to each other).
13. Regarding **Claims 9-11**, Zhang teaches that the plurality of voxels are about 10 ((paragraph 0050, 0051, and 0091 teaches N number of 2d images which would have at least N number of voxels, wherein N could be 10).
14. Regarding **Claim 12**, Jaffray teaches the use of a display to show the sectional views (fig. 4 teaches a display).
15. Regarding **claim 18**, Holupka teaches that the sectional images are orthogonally arranged (figs. 5a and 5b).
16. Regarding **claim 19**, Holupka teaches that at least three sectional views are prepared (figs. 5a and 5b).

17. **Claims 13-17, are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 6,842,502 to Jaffray et al. in view of U. S. Patent No. 7,171,255 to Holupka et al. in view of U. S. Publication No. 2005/0171430 to Zhang et al. further in view of U. S. Patent No. 5,651,043 to Tsuyuki et al.**

18. Regarding **claims 13 and 14**, Jaffray, Holupka and Zhang teaches all of the above claimed limitations but do not expressly teach that the therapeutic source is controlled by the operator via an input means, and the input means is correlated to the display means.

19. Tsuyuki teaches that the input unit controls the main control unit which controls the display means and the therapeutic means (fig. 4 elements 48 and 40 and col. 22 lines 11-15)

20. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Jaffray, Holupka and Zhang with an input for user control of the therapeutic procedure as taught by Tsuyuki since such a setup would result in a safer medical procedure as the computer data is checked by the user before the radiation is carried out, as such a trained user is verifying the procedure hence would result in less damage and more precise and safe radiation.

21. Regarding **Claims 15**, Tsuyuki teaches superimposing images and is movable in response to an input from the input means. (Col. 19 lines 5-11 teaches superimposing an organ onto the images, and deleting the superimposing would meet the element of moving the superimposed image).

22. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Jaffray, Holupka and Zhang to superimpose images as taught by Tsuyuki, since such a setup would result in more operator friendly diagnostic system as images could be superimposed and hence the target could be easily noted.

23. Regarding **Claim 16**, Tsuyuki teaches superimposing images from previous investigations and treatment of patient. (Col. 19 lines 5-11 teaches superimposing based on images, which could be pre-treatment images and fig. 22).

24. Regarding **claim 17**, Tsuyuki teaches that the superimposed images are outlines (fig. 22).

Response to Arguments

25. Applicant's arguments with respect to claims 6-19 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SANJAY CATTUNGAL whose telephone number is (571)272-1306. The examiner can normally be reached on Monday-Friday 9-5.

27. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (571) 272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

28. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SANJAY CATTUNGAL/
Examiner, Art Unit 3768